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Event Review: Dark Ages Recreation Company at L'Anse aux Meadows, NHSC 2017

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To celebrate Canada's 150th anniversary and the 20th anniversary of the historical interpretation program at L'Anse aux Meadows, NHSC, Parks Canada invested to extend their regular staff with a 10 day special program. Darrell Markewitz, the designer of the original program, and the Dark Ages Recreation Company (DARC) returned once again to this UNESCO

World Heritage site to interact with the staff and public and mount displays of various craft activities.

> One interesting thing about working with traditional skills is that you will often meet visitors who have a history with that skill.

Lying at the extreme northern tip of Newfoundland, L'Anse aux Meadows represents the only widely accepted Viking-Era presence in North America. Archaeological remains of seven buildings were found at the site, along with a few minor artefacts including a ring-headed pin, glass bead, and drop-spindle whorl. Evidence of on-site work was also found in the form of iron slag, discarded ship rivets, and axe-hewn wood chips. Four of the seven buildings were reconstructed by Parks Canada. Since 1997, these have been staffed by costumed interpreters who blend first- and third-person styles to tell the story of the Viking-Era Scandinavian presence in North America.

For this anniversary presentation, twelve members of DARC made the trip to Newfoundland's northern shore: Darrell Markewitz, Diane Harper, Marcus Burnham with his wife Jo Duke and daughter Kate, Richard Schweitzer with his wife Sarah Scroggie and their son Liam, Neil and Karen Peterson, Robert Schweitzer and his son Keiran.

In 2010, DARC mounted the culmination of one of our iron smelting experimental archaeology sequences by successfully recreating the original smelt that was done on the site around 1002 AD[1] . In 2017, the Parks Canada staff honed their skills by mounting a second smelt under the leadership of Parks Canada's Mark Pilgrim, with supervision from DARC's Darrell Markewitz and only minor help on the bellows by additional DARC staff. The 12-hour smelt was successful in converting 29 kilograms of bog ore analog (a.k.a. "DARC dirt") and 55 kilograms of charcoal into a 5.5-kilogram iron bloom. The bloom will be used by Mark to create various objects during this season's activities, including boat rivets to be used next year when Parks Canada plans to begin work on the reconstruction of a faering (a small fishing craft). The bloom was broken up and worked down further towards the 'bar' form on a later day. On the final weekend, a new smelter was constructed to allow the staff to do an additional smelt later in the season (See Figure 1, 2 and 3).

During DARC's visit, Marcus Burnham divided his time between demonstrating and discussing woodturning with the public, and working through the different stages in bowl production with Parks Canada staff on a spring pole lathe that was set up outside, on the seaward side of the reconstructed buildings. During the seven fair weather days, Marcus managed to produce three 17-22 cm bowls from a birch log supplied by the site. Under ideal conditions (less conversation and/or an apprentice to perform the axe-roughing), production would have been faster. As part of the visit, Marcus had been contracted to construct a new spring pole lathe to be integrated into the Parks Canada interpretive program, and to train selected Parks Canada staff in its use. The lathe, which was left on site at the end of the visit, represents an

equipment addition and allows the staff to demonstrate the wood working activities supported by the archaeological finds. The lathe was constructed between April and June 2017, using lumber cut from Marcus' woodlot in Ontario. The design mirrored images found in medieval manuscripts, but also closely resembled types of pole lathes that continued to be used for turning platters and bowls well into the 20th century (See Figure 4).

Richard Schweitzer set up a clamp bench to work on a bow. He also spent many an hour welcoming visitors into the reconstructed enclosure while telling them stories about people and gods of the VikingEra, based on the sagas.

Karen Peterson and Jo Duke expanded the women's work area with their warp weighted loom, drop spinning, dyeing, nålbinding and sewing. Taking a turn at attempting these activities is always a hit with the public. Madder dyes were the standard for the week, with the first dye bath beginning on our second presentation day. The dye material was approximately two litres of madder root dug up out of Karen's garden and brought along for this purpose. The first dye bath included several skeins of wool and a piece of linen fabric. The wool skeins wound up a vibrant red, while the linen was a lighter version of the red, more pink-ish in tone. Linen doesn't take or hold most natural dyes as effectively as wool. The same dye pot was used for a total of three days on a variety of materials. On day 3, Iain asked to put his wicklebanders (leg binding straps) in. This took up a fair amount of room in the pot so little else was added that day. No extra water was added, so the dye pot came off the fire early on the last day as it was starting to simmer dry.

On Day 4, Parks Canada interpreter Bonnie Hynes brought in some commercially sourced madder to continue the dye pot. It was added to the already existing madder with additional water, to refresh the dye. As the dyeing process continued over the next few days, people brought more stuff to throw in. Diane wanted a sun hat dyed, Bonnie wanted more of her Briggs and Little yarn skeins added, and Jo wanted some linen thread added. Another pair of wicklebanders was dyed. Karen also overdyed two skeins of her own that started off yellow and turned out a kind of reddish orange.

The dye pot, which was originally intended to be a one-day activity for the Canada C3 boat visit, turned out to be a weeklong activity. Due to having to work around the cook's need for the fire, dyeing generally happened only in the afternoons. The dye pot was usually pulled off the fire just before the end of the day and allowed to cool. The dyed material was then removed first thing on the morning of the following day.

On her second last day there, Karen wore her hair loose and was bending over the pot. When she saw that her hair just skimmed the pot her first thought was "be careful". But the second thought followed just a nano-second later: "I wonder what would happen?" She dunked the last few inches of her hair into the pot and allowed the material dry in place and fall out of her hair as it dried. Some colour change was observed (See Figure 6 and 7).

DARC brought two looms with them. Robert Schweitzer further expanded the textile activities with a tablet-weaving loom based on the Oseberg ship burial. His display included a full range of fibres and techniques of brocade, double weave, and colour pattern weaves. The second loom was a warp-weighted loom, where Jo made slow progress on setting up a fine linen warp, discovering only on the last few days she would have been better off making a new set of heddles rather than trying to thread the highly twisted single ply yarn through the existing set (See Figure 8 and 9).

Neil Peterson expanded his normal 'trade' station by setting up a station that represents a change in the direction provided by Parks Canada. In the past, Parks Canada has focused on only presenting activities that are known to, or can reasonably be extrapolated to have occurred at, the site within the reconstructed area. In the original programming, activities that did not occur on-site were presented outside the 'historic' enclosure, or at the Visitor Centre. At their request, an active, hands-on, beadmaking reconstruction was set up outside the main turf hall. Many of the staff, and some visitors, spent time learning the frustrations of beadmaking in an environment where wind is a constant and highly variable addition to the process. Robert Schweitzer and Parks Canada staff member Jaime added additional personnel to this station as required, assisted by many other people as the need arose for another pair of hands on the bellows. On heavier weather days, the setup was moved inside (See Figure 10 and 11).

Kate Burnham (a DARC veteran at 15!) came into her own this year representing a young adult's activities, including textiles, food preparation, and child control. She also spent time teaching the runes, wool preparation and spinning to anyone who was interested - Parks Canada staff and visitors alike. A good portion of her time was spent helping other DARC members and Parks Canada staff with their tasks – delivering snacks, meals, and water (both for consumption and for general use). This is her third visit to the site, having been with DARC during the 2010 and 2012 trips. Now that Liam and Kieran are around the same age that she was on previous trips, she can compare her younger self to them (and vice versa), behavior and all. She found interpreting the site to younger or teenaged audiences much easier because she was of a similar age and could refer to their typical daily activities.She often found herself explaining her chores to visitors and how the chores would compare to a boy's of the same age, or younger children.

Having spent nearly all of her free time spinning wool, Kate began to appreciate several things. She sees now how useful a younger brother or sister could be; combing wool is a dull, boring task and she often handed over the job to either of the younger boys or to the visitors, so she could spin instead. During the visit she spun four skeins, two of which were spun from fleece that she had combed herself. She found that her skill improved throughout the week and, as finished products, the skeins are of a thickness that they could be used for woven

trim. However, she will need more practice to spin thinly enough to match other textile finds (See Figure 12).

Sarah Scroggie and Diane Harper mounted a food station, providing hot lunches for our staff while engaging the public. They talked about what type of foodstuffs would be likely in the Viking Era, the types of vessels and food preparation tools, methods of cooking, and the archaeological remains of animals found on site. This same station also showcased our laundry, felting, the making and mending of fishnets, and the making of many other items that can be created from animal bones and skins. The laundry provided a good place to try cleaning using homegrown soapwort. Preliminary experiments indicate that it takes more soapwort than anticipated (See Figure 13).

One interesting thing about working with traditional skills is that you will often meet visitors who have a history with that skill. On this visit, Diane not only got to teach one of the archaeology students about netting, but she also got to learn about it from a visitor. As a child, this visitor had worked with his grandfather on hemp netting by keeping his grandfather's netting needles full so that his grandfather never had to stop working. Similarly, one of the Parks Canada staff could share netting knots and some of the history of dip nets in the local area (See Figure 14).

Liam and Keiran represent our youngest members. Children of the time would have split their time between a variety of activities - ours do the same. The majority of the day was spent doing chores such as fetching water, washing dishes, carrying food, breaking charcoal and learning their runes. Playtime was liberally interspersed throughout the day, including time spent helping to educate the site's visitors on the details of playing hnefatafl. The remainder of their days were spent learning from the various craftsmen to build their knowledge base and help them choose their future careers (See Figure 15).

Another highlight of the trip was the activities on Sunday July 16th. The "Canada C3" ship (https://canadac3.ca) which has been taking a select group of Canadians on a 150-day journey around the country from coast-to-coast-to-coast as a part of Canada's 150th birthday celebrations, stopped in the area to allow people to visit L'Anse aux Meadows, NHSC. The day's activities included the iron smelt, a madder dye bath, beadmaking, a lecture by Dr. Birgitta Wallace, a catered feast, and a bonfire on the beach (See Figure 16).

A surprise visit from Dr. William Fitzhugh of the Smithsonian provided another element of interest to the week. He and his team stopped in on their way up the coast to do some digging, and spent a couple of days in Viking Era clothing in an impromptu experiential archaeology program with the DARC interpreters. They joined us in all of the daily activities, including some intense conversations on the experimental work that underlies many of DARC's presentation elements. Dr. Fitzhugh also provided an evening lecture on Viking fact and fiction, of interest to both crews.

In addition to the experiential nature of the presentations there is always a chance to try adding an experiment or two, or to collect some data in this environment.

The first of these was the oven mitt. The bead furnace seen in Figure 8 has a white line near the top. The furnace above that line lifts off, allowing the furnace to be refilled with charcoal. The top is then replaced and sealed with a simple wet clay mix that is painted over the seal. For years, we have simply used a modern welders' glove for protection when lifting the (very hot) lid. One question that has always been outstanding was 'what would they have used'. On this trip we decided to test a theory we had. Karen used nålbinding to create a mitten like those found in sites such as Iceland, using Icelandic wool. It was originally thought that due to the high level of heat (the gases exiting the chimney can have temperatures in excess of 1200°C), a complex design such as two mittens with a leather insert might be required. The design tested over the course of several days involved only stuffing one side of the mitten with the remains from the wool being combed for spinning. This proved entirely acceptable for the periods of contact required. The mitten itself received only minor damage over those days. This will be followed up with some additional observations including temperature readings of the external face of the chimney and a time/temperature curve for inside the mitten. A count of usage and damage will also be recorded over time. These results will be published in the future (See Figure 17 and 18).

The second was a question of audio. During each visit to L'Anse aux Meadows, music forms a minor part of the presentation. The question of how the instruments' sounds would be impacted by the acoustic qualities of the hall had always interested Richard Schweitzer. This year, recordings were made of both Richard's lyre and Parks Canada Staff member Wade Hillier's lyre, being played both outside and inside the reconstructed hall from a variety of distances in different rooms. These audio files will be compared in the near future, to determine the impact of the sod houses on the acoustics.

Finally, while turning on the lathe, Marcus experimented with a variety of drive cords. In order to spin the workpiece, a mandrel is driven into what will be the centre of the inside of the bowl. A cord or thong connecting the foot pedal to the spring pole is wrapped around the mandrel in such a way that, when the pedal is depressed, the mandrel (and workpiece) revolve. Until recently, Marcus had focused on the use of scrap ~0.3 - 0.5cm square leather lacing. However, not all thongs and leather are created equal, and he had been having trouble finding a supply of lacing that was sufficiently hardwearing. Because the lathe was set to be left at the site after the visit and the last of Marcus' workable lacing was nearly exhausted, several alternative materials were tested during the visit, including purchased 0.3 cm latigo leather lacing, single ply natural jute twine, and 4-strand hemp cord made on-site by Bonnie and Jo using a slung (Danish whipcording) technique. Both the latigo lacing and the jute twine failed quickly and did not represent viable materials. However, the whipcord worked excellently, a single strand generally lasting through a couple of days of continual and

often hard use. Measurements before after use indicated that the cord stretched only 7% during use, although this was probably localised to the part that ran on the mandrel. Although even more durable materials are being sought (suggestions included seal or walrus hide), the capacity for the whipcord to be replaced easily using on-site materials and in-period production methods makes it a highly viable interim solution (See Figure 19).

Data for the smelt were collected in the usual way and will be added to our growing list of experimental smelt data. Of particular interest in this setting is the 'charge time'. This is the time needed to burn 2 kg of charcoal. Human-powered air (via a bellows) generally provides a longer charge time than blower-powered air. At this point, we are building up a respectable number of human-powered experiments enabling us to compare the range and variance of the charge time.

After 10 days, and with a lot of sadness, the DARC team packed away the gear and set sail for their next adventure.

1 It is estimated that there was only one smelt on site during the Viking Era, yielding approximately 3 kg of metal. Although some nails may have been produced from the bloom, the smelt is likely to have been carried out mostly as a proof of the region's potential. See Wallace 2006 p. 60

Link(s)

http://www.darkcompany.ca/mus/lam17
http://www.pc.gc.ca/en/lhn-nhs/nl/meadows/index
http://canadac3.ca/

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Gallery Image

FIG 1. DARRELL MARKEWITZ ADDING MORE COB TO THE SMELTER DURING CONSTRUCTION. A BUNDLE OF STICKS WAS USED TO PROVIDE AND INTERNAL SMELTER FORM. (PHOTO: KELLY PROBYN-SMITH)

FIG 2. MARK PILGRIM CLEARING OBSTRUCTIONS DURING THE SMELT. NOTE THE MODERN SAFETY GLASSES - NO MATTER WHERE YOU ARE WORKING SOME THINGS SHOULD STILL BE USED. METAL TAPE WAS USED TO CONNECT THE BELLOWS AND THE TUYERE. NORMALLY THIS WOULD HAVE BEEN A LEATHER TUBE BUT THE SHORT TIME BETWEEN THE ARRIVAL DATE AND THE REQUIRED SMELT DATE DID NOT ALLOW FOR THE MANUFACTURE OF A CUSTOM PIECE ON SITE. (PHOTO: KELLY PROBYN-SMITH)

FIG 3. HAPPY SMELT TEAM WITH THE FINISHED BLOOM. FROM L TO R: DARRELL MARKEWITZ, KEVIN YOUNG, MARK PILGRIM, IAIN PILGRIM, ETHAIN ARSENAULT (PHOTO: KAREN PETERSON)

FIG 4. MARCUS BURNHAM PREPARING TO CONTINUE TURNING THE OUTSIDE OF A BOWL AFTER RE-ALIGNING THE LATHE. (PHOTO: KELLY PROBYN-SMITH)

FIG 5. RICHARD SCHWEITZER WORKING ON SHAPING A PIECE OF WOOD WHILE TALKING WITH A VISITOR. LIAM WATCHES AND LEARNS. (PHOTO: KELLY PROBYN-SMITH)

FIG 6. VARIOUS TONES OF MADDER RED DRYING IN THE WIND. (PHOTO: DIANE HARPER)

FIG 7. A LITTLE MADDER MADNESS SETS IN. KAREN PETERSON INVESTIGATING THE EFFECTS OF MADDER ON HAIR COLOUR. (PHOTO: NEIL PETERSON)

FIG 8. KAREN PETERSON DEMONSTRATES AND DISCUSSES SPINNING WITH VISITORS WHILE ENJOYING A SUNNY DAY. (PHOTO: KELLY PROBYN-SMITH)

FIG 9. JO DUKE WEAVING A WOOLEN SHAWL ON THE PARKS CANADA LOOM WHILE HER OWN LINEN WARP IS LEFT TANGLED ON THE LOOM BEHIND. THE MADDER DYED HANDSPUN WAS HUNG TO DRY ON THE SIDE OF THE LOOM. (PHOTO: KELLY PROBYN-SMITH)

FIG 10. ON VERY WET DAYS THE BEAD WORK WAS MOVED INTO THE MAIN BUILDING. HERE ROBERT HELPS KEIRAN MAKE A BEAD WHILE JO PROVIDES THE HELPING HANDS ON THE BELLOWS. (PHOTO: RICHARD SCHWEITZER)

FIG 11. DR. WILLIAM FITZHUGH MAKES HIS FIRST BEAD WHILE NEIL PETERSON KEEPS THE FIRE HOT USING THE BELLOWS. EMILY DYKEMAN OF PARKS CANADA AND ONE OF THE ARCHAEOLOGY STUDENTS LOOK ON. (PHOTO: KELLY PROBYN-SMITH)

FIG 12. KATE BURNHAM WORKING ON HER SPINNING, USING THE 'PARK AND DRAFT' METHOD. WITH THE SPINDLE HELD BETWEEN HER KNEES, SHE IS DRAWING OUT THE NEXT LENGTH OF FLEECE FOR SPINNING. (PHOTO: KELLY PROBYN-SMITH)

FIG 13. SARAH SCROGGIE COOKS LUNCH WHILE DIANE HARPER SITS NEARBY WORKING ON MENDING SOME CLOTHING. (PHOTO: KELLY PROBYN-SMITH)

FIG 14. DIANE HARPER WORKING ON HER NET. (PHOTO: RICHARD SCHWEITZER)

FIG 15. KEIRAN BREAKING CHARCOAL TO THE SIZE NEEDED FOR THE SMELT AND BEAD FURNACES. MANY VISITORS ENJOYED THEIR TIME IN THE “DIRTY TUNIC” HELPING TO BREAK CHARCOAL. (PHOTO: KELLY PROBYN-SMITH)

FIG 16. DARRELL MARKEWITZ AND DR. BIRGITTA WALLACE (SEATED) DISCUSS THE RESULTS OF THE SMELT WITH DR. WILLIAM FITZHUGH AND TWO OF HIS STUDENTS. (PHOTO: KELLY PROBYN-SMITH)

FIG 17. REACHING FOR THE TOP TO REINSTALL IT. NOTE THAT IN LESS THAN A MINUTE THE LID REGULARLY SET THE WOODEN SUPPORT ON FIRE. (PHOTO: KAREN PETERSON)

FIG 18. THE MITTEN AFTER THE FIRST 10 USES SHOWING MINIMAL DAMAGE DUE TO THE HEAT. THE WOOL STUFFING IS JUST VISIBLE IN THE HOLE AT THE BASE OF THE THUMB. (PHOTO: KAREN PETERSON)

FIG 19. MATERIALS USED FOR POLE LATHE DRIVE CORDS. LEFT TO RIGHT: 1CM SOFT CHROME TANNED LEATHER, SINGLE PLY NATURAL JUTE TWINE, LATIGO LACE, AND 4-STRAND HEMP CORD. ON HEMP CORD, LEFT HAND SIDE SHOWS WEAR AND FINAL FAIL DURING USE, RIGHT HAND SIDE SHOWS ORIGINAL TEXTURE. (PHOTO: MARCUS BURNHAM)